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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,454	10/23/2006	Erik Gydesen	PATRADE	8990

7590 10/23/2008

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EXAMINER	
WITKOWSKI, ALEXANDER C	
ART UNIT	PAPER NUMBER
2853	
MAIL DATE	DELIVERY MODE
10/23/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,454	GYDESEN, ERIK	
	Examiner	Art Unit	
	ALEXANDER C. WITKOWSKI	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 1, 2, 3, 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016) in view of Kersch et al. (US 6,755,130).

Regarding claim 1, Shimohatsubo et al. teaches a method for cleaning the ink chamber (Fig.3; col.3, lines 49-52) of a printing unit (col.1, lines 41-44) preferably a chamber in a doctor blade (Fig.2: 26) where pressurized cleaning liquid (col.4, lines 52-53) is sprayed into the chamber through at least one cleaning nozzle (Fig.2; 21).

However, Shimohatsubo et al. does not teach partial filling of a hydrophore with liquid from a storage tank, a supply system or a water tap by means of a high-pressure pump, building up a predetermined pressure in the hydrophore, activation of at least one valve which is disposed between the hydrophore and the cleaning nozzle for injecting at least one shot of cleaning liquid in the ink chamber for executing a cleaning cycle controlled by the activation cycle of the valves.

Kersch et al. teaches partial filling of a hydrophore with liquid from a storage tank (Fig.1: 1), a supply system (Fig.1: 14) or a water tap by means of a high-pressure pump

(Fig.1: 14), building up a predetermined pressure in the hydrophore (Fig.1: showing hydropneumatic cleaning system; Applicants' hydrophore seems to function as a hydropneumatic pressure system), activation of at least one valve (Fig.1: 5) which is disposed between the hydrophore and the cleaning nozzle (Fig.1: 5) for injecting at least one shot of cleaning liquid in the ink chamber for executing a cleaning cycle (col.4, lines 5-22) controlled by the activation cycle of the valves (Fig.1: 30; col.4, lines 23-41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shimohatsubo et al. to provide partial filling of a hydrophore with liquid from a storage tank, a supply system or a water tap by means of a high-pressure pump, building up a predetermined pressure in the hydrophore, activation of at least one valve which is disposed between the hydrophore and the cleaning nozzle for injecting at least one shot of cleaning liquid in the ink chamber for executing a cleaning cycle controlled by the activation cycle of the valves, as taught by Kersch et al., for the purpose of reducing consumption of ink cleaning agents and associated costs (col.1, lines 33-36).

Regarding claim 2, the combination of Shimohatsubo et al. and Kersch et al. references, as applied to claim 1 above, teaches a method characterized by filling a storage tank with cleaning liquid (Shimohatsubo et al.: col.4, lines 52-53) and transferring a volume of cleaning liquid from the storage tank for filling the hydrophore (Kersch et al.: Fig.1), where each cleaning cycle (col.4, lines 5-22) includes a number of

shots with an interval of 5 - 15 seconds, preferably about 10 seconds (choice of design).

Regarding claim 3, the combination of Shimohatsubo et al. and Kersch et al. references, as applied to claim 1 above, teaches a method characterized in that the hydrophore (Kersch et al.: Fig.1) and the ink chamber (Shimohatsubo et al.: Fig.3; col.3, lines 49-52) are blown through (col.4, lines 48-58) for driving out cleaning liquid (col.4, lines 52-53) at the termination of a cleaning cycle (col.4, lines 48-58).

Regarding claim 8, the combination of Shimohatsubo et al. and Kersch et al. references teaches a system for cleaning an ink chamber (Shimohatsubo et al.: Fig.3; col.3, lines 49-52) of a printing unit (col.1, lines 41-44), preferably a chamber in a doctor blade (Fig.2: 26), including at least one cleaning nozzle (Fig.2; 21) through which pressurized cleaning liquid (col.4, lines 52-53) is sprayed into the chamber, characterized in that it includes a hydrophore (Kersch et al.: Fig.1) connected with a storage tank (Fig.1: 1), supply system (Fig.1 : 14) or a water tap via a high-pressure pump (Fig.1: 14) for transferring a volume of cleaning liquid for partly filling the hydrophore for building up a predetermined pressure in the hydrophore (Fig.1), at least one activatable valve (Fig.1 : 5) disposed in a connection between the hydrophore and the cleaning nozzle, and which is adapted for opening the connection for injecting a shot of cleaning liquid into the ink chamber, and which is connected with a control for executing a cleaning cycle (col.4, lines 5-22) controlled by the activation cycle of the

valves (Fig.1 : 30; col.4, lines 23-41).

Regarding claim 9, the combination of Shimohatsubo et al. and Kersch et al. references, as applied to claim 8 above, teaches a system characterized in that the hydrophore (Kersch et al.: Fig.1) is connected with a source of pressurized air (Fig.1: 14, 15), preferably a standard pressurized air facility, so that the hydrophore and the ink chamber (Fig.3) may be blown through for driving out cleaning liquid at the termination of a cleaning cycle (col.4, lines 5-22).

Regarding claim 12, the combination of Shimohatsubo et al. and Kersch et al. references, as applied to claim 8 above, teaches a system characterized in that a number of inlets and outlets are provided in the chamber (Kersch et al.: Fig.1: 3), the inlets and outlets being distributed along the length of the chamber (Fig.1 : 3), as a row of inlets are disposed at one side of the chamber (Fig.6: 3) while a row of outlets are disposed at the opposite side of the chamber (Fig.6: 3), that the row of inlets are connected with a common ink supply (Fig.6: 3), and that the row of outlets are connected with a common outlet for ink (Fig.3: outlet pipe).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016) and Kersch et al. (US 6,755,130), as applied to claim 1 above, and further in view of Yamaguchi et al. (US 6,623,564).

Regarding claim 4, the combination of Shimohatsubo et al. and Kersch et al. references, as applied to claim 1 above, teaches a method characterized in that the cleaning liquid is heated, possibly in the storage tank, before filling into the hydrophore (Kersch et al.: Fig.1), and that the hydrophore is emptied at each cleaning cycle (col.4, lines 23-41) is only re-filled with heated (Yamaguchi et al.: col.7, lines 1-5) cleaning liquid immediately before a new cleaning cycle (col.4, lines 5-23).

However, the combination of Shimohatsubo et al. and Kersch et al. references, does not teach that the hydrophore is only re-filled with heated cleaning liquid. Yamaguchi et al. teaches the hydrophore is only re-filled with heated (Yamaguchi et al.: col.7, lines 1-5) cleaning liquid.

It would have been obvious to one of ordinary skill in the art at the time of this invention to modify the combination of Shimohatsubo et al. and Kersch et al. references to provide that the hydrophore is only re-filled with heated cleaning liquid, as taught by Yamaguchi et al., for the purpose of removing residual ink with greater effectiveness and speed, thus reducing time between printing cycles.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016) and Kersch et al. (US 6,755,130), as applied to claim 1 above, and further in view of Steenbergen (US 6,602,566).

Regarding claim 5, the combination of Shimohatsubo et al. and Kersch et al. references does not teach a method characterized in that the predetermined pressure in

the hydrophore is between 3 and 30 bar, preferably between 12 and 20 bar and particularly about 16 bar.

Steenberger teaches a method characterized in that the predetermined pressure in the hydrophore is between 3 and 30 bar, preferably between 12 and 20 bar and particularly about 16 bar (Steenbergen: col.2, lines 62-63: disclosing ink cleaning at 15 bar).

It would have been obvious to one of ordinary skill in the art at the time that this invention was made to modify the combination of Shimohatsubo et al. and Kersch et al. references to provide a method characterized in that the predetermined pressure in the hydrophore is between 3 and 30 bar, preferably between 12 and 20 bar and particularly about 16 bar, as taught by Steenbergen, for the purpose of removing residual ink with greater effectiveness and speed, thus reducing time between printing cycles.

4. Claims 6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016) and Kersch et al. (US 6,755,130), as applied to claims 1 and 8 above, and further in view of Figliola et al. (US 3,662,781).

Regarding claim 6, the combination of Shimohatsubo et al. and Kersch et al. references does not teach a method characterized in that each cleaning nozzle is spring biased towards a closed position, where it covers injection openings in the chamber, and that the pressure in the cleaning liquid overcomes the spring biasing by an injection shot.

Figliola et al. teaches a method characterized in that each cleaning nozzle is spring biased towards a closed position, where it covers injection openings in the chamber, and that the pressure in the cleaning liquid overcomes the spring biasing by an injection shot (col.4, lines 8-13).

It would have been obvious to one of ordinary skill in the art at the time of this invention to modify the combination of Shimohatsubo et al. and Kersch et al. references to provide a method characterized in that each cleaning nozzle is spring biased towards a closed position, where it covers injection openings in the chamber, and that the pressure in the cleaning liquid overcomes the spring biasing by an injection shot, as taught by Figliola et al., for the purpose of preventing used cleaning solution from entering and clogging the nozzles between cleaning cycles, thus reducing associated maintenance costs.

Regarding claim 10, the combination of Shimohatsubo et al., Kersch et al., and Figliola et al. references, as applied to claim 8 above, teaches a system characterized in that each cleaning nozzle is spring biased towards a closed position where it covers injection openings in the chamber, and that the pressure in the cleaning liquid overcomes the spring biasing by an injection shot (Figliola et al.: col.4, lines 8-13: disclosing valve operation relative to any water supply pressure).

Regarding claim 11, the combination of Shimohatsubo et al., Kersch et al., and Figliola et al. references, as applied to claim 8 above, teaches a system characterized in

that the hydrophore is tubular and formed in a support profile for the doctor blade (Fig.2: 26) or in a section of the wall of the doctor blade in order to have short connecting lines/tubes between the hydrophore and the cleaning nozzles (Fig.2; 21).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016), Kersch et al. (US 6,755,130), and Steenbergen (US 6,602,566), as applied to claim 5 above, and in further view of Figliola et al. (US 3,662,781).

Regarding claim 7, the combination of Shimohatsubo et al., Kersch et al., and Steenberger references does not teach a method characterized in that each cleaning nozzle is adapted to open at a pressure between 2 and 12 bar, preferably between 4 and 8 bar.

Figliola et al. teaches a method characterized in that each cleaning nozzle is adapted to open at a pressure between 2 and 12 bar, preferably between 4 and 8 bar col.4, lines 8-13: disclosing valve adjustment relative to any water supply pressure).

It would have been obvious to one of ordinary skill in the art at the time of this invention to modify the combination of Shimohatsubo et al., Kersch et al., and Steenberger references to provide a method characterized in that each cleaning nozzle is adapted to open at a pressure between 2 and 12 bar, preferably between 4 and 8 bar, as taught by Figliola et al., for the purpose of preventing used cleaning solution from

entering and clogging the nozzles between cleaning cycles, thus reducing associated maintenance costs.

6. Claims 13 - 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimohatsubo et al. (US 6,024,016) and Kersch et al. (US 6,755,130) in view of Mayer et al. (US 6,964,792).

Regarding claim 13, the combination of Shimohatsubo et al. and Kersch et al. references teaches a cleaning nozzle (Shimohatsubo et al.: Fig.2; 21) for use in a chamber (Fig.3; col.3, lines 49-52) in a doctor blade (Fig.2: 26), where pressurized cleaning liquid (col.4, lines 52-53) is injected into the chamber through at least one such nozzle (Fig.2: 21).

However, the combination of Shimohatsubo et al. and Kersch et al. references does not teach a nozzle characterized in that it includes a largely mushroom-shaped nozzle body with a stem intended for mounting in the wall of the chamber, and which has a domed top of an elastic material, and furthermore that the nozzle also includes a second nozzle body in the form of a bushing for disposition in an opening in the chamber wall and with a central boring for accommodating the stem of the nozzle body and with through-going openings disposed thereabout, the openings covered by the domed top.

Mayer et al. teaches a nozzle (Fig.2A) characterized in that it includes a largely mushroom-shaped nozzle body with a stem (Fig.2A: 211) intended for mounting in the

wall (Fig.2A: 203) of the chamber (col.7, lines 25-28), and which has a domed top of an elastic material (Fig.2A: 221), and furthermore that the nozzle also includes a second nozzle body (Fig.2A: 217) in the form of a bushing (Fig.2A: 203) for disposition in an opening in the chamber wall (Fig.2A: 223, 225) and with a central boring (Fig.2A: 203) for accommodating the stem of the nozzle body and with through-going openings disposed thereabout (Fig.2A: 219), the openings covered by the domed top (Fig.2A: 221).

It would have been obvious to one of ordinary skill in the art at the time that this invention was made to modify the combination of Shimohatsubo et al. and Kersch et al. references to provide a nozzle characterized in that it includes a largely mushroom-shaped nozzle body with a stem intended for mounting in the wall of the chamber, and which has a domed top of an elastic material, and furthermore that the nozzle also includes a second nozzle body in the form of a bushing for disposition in an opening in the chamber wall and with a central boring for accommodating the stem of the nozzle body and with through-going openings disposed thereabout, the openings covered by the domed top, as taught by Mayer et al., for the purpose of pressure regulation of fluid and uniform flow, thus avoiding particulates suspended in fluid.

Regarding claim 14, the combination of Shimohatsubo et al., Kersch et al., and Mayer et al. references, as applied to claim 13 above, teaches a cleaning nozzle (Shimohatsubo et al.: Fig.2; 21), characterized in that the domed top (Mayer et al: Fig.2A: 221) is intended for covering injection openings in the chamber (Fig.2A; 219)

and designed with a radial inner and outer surface which is largely perpendicular (Fig.2A) to the stem (Fig.2A: 211) and which is intended for contact with the chamber wall (Fig.2A: 203) at the mounting of the nozzle (Fig.2A: 219) in an opening in the wall, and that the radially outer surface is arranged to extend in unloaded condition to a position further down over the stem than the position of the inner surface (Fig.2A: 217).

8. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shimohatsubo et al. (US 6,024,016), Kersch et al. (US 6,755,130), and Mayer et al. (US 6,964,792) references, as applied to claim 13 above, and further in view of Figliola et al. (US 3,662,781).

Regarding claim 15, the combination of Shimohatsubo et al., Kersch et al., and Mayer et al. references does not teach a cleaning nozzle characterized in that the stem is provided with screw thread and adapted to be fastened by screwing into an opening in the chamber wall, and that the domed top has a notch for engaging a tool.

Figliola et al. teaches a cleaning nozzle characterized in that the stem is provided with screw thread (Fig.3: 27; col.4, lines 17-20; 43-44) and adapted to be fastened by screwing into an opening in the chamber wall (col.7, lines 41-43), and that the domed top has a notch for engaging a tool (Fig.6: 33a; col.4, lines 45-49).

Regarding claim 16, the combination of Shimohatsubo et al., Kersch et al., and Mayer et al. references, as applied to claim 13, teaches a cleaning nozzle characterized

in that it is made of plastic, preferably PVDF (Figliola et al., col.4, lines 17-20).

Response to Arguments

7. Applicant's arguments filed 09/15/2008 have been fully considered but they are not persuasive.

(a) Applicant argues that claim 1 is distinguished from Shimohatsubo and Kersch at least in that it teaches spraying pressurized cleaning liquid into a doctor blade chamber through at least one cleaning nozzle and partial filling of a hydrophore with liquid from a storage tank, a supply system or a water tap by means of a high-pressure pump. No references, taken alone or in combination, teach or suggest these features. The Examiner argues that Shimohatsubo teaches that "pressurized cleaning liquid (col. 4, lines 52-53) is sprayed into the chamber through at least one cleaning nozzle (Fig. 2; 21)." Applicant cannot agree.

The lines cited to by the Examiner say nothing about spraying, pressurized cleaning liquid, or a cleaning nozzle. Rather, they teach that "clean water is supplied into the chamber 35 through the conduit 20 and holes 21 in the blade mounting plate 19 by driving a pump 38." The Examiner apparently recognizes that Kersch has nothing to do with a doctor blade. Therefore, neither reference teaches or suggests this limitation.

Examiner responds to Applicant's argument (a) by respectfully noting that the combination of Shimohatsubo et al. and Kersch et al. references discloses all the features Applicant argues are absent in the rejection of claim 1. Applicant's approximate excerpt from the rejection of claim 1 verifies that the combination of Shimohatsubo et al. and Kersch et al. references teaches that "clean water (sic) [cleaning liquid] is supplied [pressurized / pumped] into the chamber 35 through the conduit 20 and holes [spraying] 21 in the blade mounting plate [optional doctor blade] 19 by driving a pump [by means of a high pressure pump] 38."

(b) Applicant argues that Examiner allows that Shimohatsubo does not teach or suggest "partial filling of a hydrophore with liquid from a storage tank.., by means of a high pressure pump." However, the Examiner also argues that "Kersch et al. teaches partial filling of a hydrophore with liquid from a storage tank (Fig. 1:1), a supply system

(Fig. 1: 14) or a water tap by means of a high pressure pump (Fig. 1: 14)." Applicant cannot agree.

Examiner responds to Applicant's argument (b) by respectfully noting that Applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

(c) Applicant argues that the Examiner identifies element 14 of Kersch as a supply system and high pressure pump for partial filling of a hydrophore with liquid. This is incorrect. Element 14 is a changeover valve. "The pressure container 1 can be pressurized from a compressed-air source, not shown, generally from the existing supply system of the press, via an electronically driven changeover valve 14... and can be relieved of pressure via a further pressure line 13 mad an electronically driveable changeover valve 15." (Col. 4, 11.23-28) Kersch operates differently from the present invention and as a result does not have or need a high pressure pump for partially filling a hydrophore with liquid. In the present invention (Pages 4-5):
"By using the hydrophore, a small high-pressure pump with a capacity reduced with a factor 100 may be used. The pump only needs to have a pumping capacity of 10- 12 l/min. This will provide capacity for shots with an endurance of 1/10 or a few tenths of a second and with an amount of about 2-4 litres per shot. The shots are repeated at intervals between 8 and 12 s. The hydrophore may have a content of 6-8 l cleaning liquid, and when about 2 l per shot are used, a sufficiently high pressure is maintained during the entire shot. After each shot, the high pressure pump will build up pressure in the hydrophore. As cleaning liquid comes from a storage tank or from a supply system, it is only necessary to dimension the hydrophore itself and the short connecting lines to the chamber for high pressure. By disposing shut-off means in the shape of valves or similar between the chamber and the hydrophore, the cleaning cycle may be controlled by actuating the valve.

As mentioned above, the hydrophore may be made for containing a very limited amount of liquid, namely a small multiple of the amount to be used for each cleaning shot. This means that the hydrophore may be constructed with a very small volume with very short pipe connections to the cleaning nozzles. Hereby pressure losses in the pipes are avoided, and it becomes possible to

work with a high injection pressure in the chamber so that good distribution of the cleaning liquid and hence efficient cleaning of the chamber is achieved."

Thus, in the present invention, the hydrophore is very small and contains only a small multiple of the amount of liquid used for each cleaning shot. After each cleaning shot, the high pressure pump injects more liquid into the hydrophore and builds up pressure in the hydrophore.

In contrast, Kersch has a pressure container 1 full of a cleaning medium. To build up pressure in the container, compressed air is injected into the container through changeover valve 14 as shown in Figure 1. To relieve pressure in the container, changeover valve 15 can allow some release of air from the container. Valves 14 and 15 do not vent or pump liquid of any kind. By maintaining a high air pressure, even a very small amount of liquid in Kersch could be pressurized so that when valves 4 and 5 are opened, cleaning medium flows through fluid feed line 2 to the outlet pipe 3.

The other references cited do nothing to supply what is lacking in Shimohatsubo and Kersch. Therefore, the references, taken alone or in combination, do not teach or suggest all the limitations of Claim 1.

Examiner responds to Applicant's argument (c), by respectfully noting that the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter.1985).

(d) Applicant argues that claim 8 is patentable for similar reasons, as it teaches at least one cleaning nozzle through which pressurised cleaning liquid is sprayed into a doctor blade chamber and a hydrophore connected with a storage tank, supply system or a water tap via a high-pressure pump for transferring a volume of cleaning liquid for partly filling the hydrophore for building up a predetermined pressure in the hydrophore.

Furthermore, Shimohatsubo and Kersch could not be combined. There is no suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Examiner argues that "It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Shimohatsubo et al. to provide partial filling of a hydrophore with liquid from a storage tank, a supply system or a water tap by means of a high-pressure pump... as taught by Kersch et at., for the purpose of reducing

consumption of ink cleaning agents and associated costs," citing to lines 33-36 of Col. 1. Applicant cannot agree.

The lines cited to by the Examiner have nothing to do with Kersch. Rather, they refer to the advantage of automatic cleaning systems and a detergent recycling system, as known in the art. That advantage has nothing to do with the particular features identified by the Examiner for combination with Shimohatsubo. Furthermore, it appears that Shimohatsubo already has an automated cleaning system in the sense described in the background of Kersch. The cleaning system of Shimohatsubo is completely different from that of Kersch and indeed appears to be incompatible with that of Kersch. There would be no reason for anyone to substitute the system of Kersch for that of Shirnohatsubo, short of hindsight reconstruction.

Examiner responds to Applicant's argument (d) by respectfully noting that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

(e) Applicant argues that claims 2 - 3 depend from and share the patentable-limitations of Claim 1 and add further patentable features. Claims 9 and 12 depend from and share the patentable limitations of Claim 8 and add further patentable features. Examples are given below.

Claim 2 adds filling a storage tank with cleaning liquid and transferring a volume of cleaning liquid from the storage tank for filling the hychophore, where each cleaning cycle includes a number of shots with an interval of 5 - 15 seconds, preferably about 10 seconds. The Examiner allows that neither references teaches or suggests that each cleaning cycle includes a number of shots with an interval of 5 - 15 seconds, preferably about 10 seconds. However, the Examiner has the words "choice of design" in parenthetical. Applicant respectfully requests that the Examiner clarify the law that is being relied on in support of the rejection. For an obviousness rejection, all the claim limitations must be taught or suggested by the applied reference.

Furthermore, the Examiner argues that Shimohatsubo teaches filling a storage tank with cleaning liquid and that Kersch teaches transferring a volume of eleaning liquid from the storage tank for filling the hydrophore. It appears impossible for Kersch to teach transferring a volume of cleaning liquid from the

storage tank for filling the hydrophore when it does not teach filling a storage tank with cleaning liquid, as the Examiner apparently allows. In any case, Kersch does not teach or suggest transferring cleaning liquid from a storage tank for filling a hydrophore, as explained above.

Claim 3 adds that the hydrophore and the ink chamber are blown through tbr driving out cleaning liquid at the termination of a cleaning cycle. The references, taken alone or in combination, do not teach or suggest this limitation. The Examiner argues that this limitations is taught by Shimohatsubo in Col. 4, lines 48-58. However, the lines cited to by the Examiner have nothing to do with blowing though a hydrophore and ink chamber to drive out cleaning liquid.

Claim 9 adds that the hydrophore is connected with a source of pressurised air, preferably a standard pressurised air facility, so that the hgdrophore and the ink chamber may be blownthrough for driving out cleaning liquid at the termination of a cleaning cycle. No reference teaches or suggests this limitation. The Examiner cites to Col. 4 of Kersch as teaching this limitation, however, the lines cited have nothing to do with blowing through a hydrophore and ink chamber for driving out cleaning liquid.

Claim 12 adds that a number of inlets and outlets are provided in the chamber, the inlets and outlets being distributed along the length of the chamber, as a row of inlets are disposed at one side of the chamber while a row of outlets are disposed at the opposite side of the chamber, that the row of inlets are connected with a common ink supply, and that the row of outlets are connected with a common outlet for ink. The references, taken alone or in combination, do not teach or suggest this limitation. The Examiner argues that element 3 of Figure 6 of Kersch meets this limitation. Applicant cannot agree. Element 3 is a cleaning element and cleaning liquid is expelled from it. For at least the above reasons, the rejection of Claims 1 - 3, 8 - 9, and 12 under 35 U.S.C. 103 (a) over Shimohatsubo in view of Kersch is improper and should be withdrawn.

Examiner responds to Applicant's argument (e) by respectfully noting that In response to applicant's argument that the hydrophore is connected with a source of pressurized air, preferably a standard pressurized air facility, "so that the hydrophore and the ink chamber may be blown through for driving out cleaning liquid at the termination of a cleaning cycle," the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or

all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Examiner responds to Applicant's embedded argument regarding "choice of design," by respectfully referring Applicant to MPEP 2144 which states that the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). See also In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (setting forth test for implicit teachings); In re Eli Lilly & Co., 902 F.2d 943, 14 USPQ2d 1741 (Fed. Cir. 1990) (discussion of reliance on legal precedent); In re Nilssen, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed.Cir. 1988) (references do not have to explicitly suggest combining teachings); Ex parte Clapp, 227 USPQ 972 (Bd. Pat. App. & Inter. 1985) (examiner must present convincing line of reasoning supporting rejection); and Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993) (reliance on logic and sound scientific reasoning).

(f) Applicant argues that Claim 4 is patentable under 35 U.S.C. 103(a) over Shimohatsubo et al. (US 6024016) in view of Kersch et al. (US 6755130) and further in view of Yamaguchi et al. (US 6623564). Claim 4 depends from and shares the patentable limitations of Claim 1 and adds further patentable features. Furthermore, Yamaguchi is non-analogous and should be removed as a reference. Yamaguchi is non-analogous art and cannot render the present

invention obvious because it is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned. Yamaguchi is not in the field of Applicant's endeavor because it is in the field of recovering synthetic substrates, and not printing unit ink chamber Cleaning. Yamaguchi is not reasonably pertinent to the particular problem faced by Applicant. The particular problem solved by the present application is the problem of providing a technically simple and reliable cleaning system for ink chambers of printing units working according to a method which enables use of a small energy-saving and space saving high-pressure pump, and which facilitate replacing the cleaning nozzles, and Yamaguchi has nothing to do with that. Yamaguchi does not, because of the matter with which it deals, logically commend itself to an inventor's attention in considering this problem. See Wang Laboratories Inc. v. Toshiba Corp-, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). No inventor would ever think to look to Yamaguchi for solutions to printing unit ink chamber cleaning problems.Because Yamaguchi is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned, it is non-analogous art and should be removed as a reference. For at least the above reasons, the rejection of Claim 4 under 35 U.S.C. 103(a) over Shimohatsubo in view of Kerseh and further in view of Yamaguchi is improper and should be withdrawn.

Examiner responds to Applicant's argument (f) by respectfully noting that regarding the assertion that Yamaguchi is nonanalogous art, it has been held that a prior art reference may be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

(g) Applicant argues that Claim 5 is patentable under 35 U.S.C. 103(a) over Shimohatsubo et al. (US 6~024,016) in view of Kersch et al. (US 6~755~130) and further in view of Steenbergen (US 6602566). Claim 5 depends from and shares the patentable limitations of Claim 1 and adds further patentable features. Furthermore, Steenbergen is non-analogous and should be removed as a reference. Steenbergen is non-analogous art and cannot render the present invention obvious because it is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned. Steenbergen is not in the field of Applicant's endeavor because it is in

the field of applying a removable printed marking to a container, and not printing unit ink chamber cleaning. Steenbergen is not reasonably pertinent to the particular problem faced by Applicant. The particular problem solved by the present application is the problem of providing a technically simple and reliable cleaning system for ink chambers of printing units working according to a method which enables use of a small energy-saving and space saving high-pressure pump, and which facilitate replacing the cleaning nozzles, and Steenbergen has nothing to do with that. Steenbergen does not, because of the matter with which it deals, logically commend itself to an inventor' s attention in considering this problem. See Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed.Cir.1993). No inventor would ever think to look to Steenbergen for solutions to printing unit ink chamber cleaning problems. Because Steenbergen is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned, it is non-analogous art and should be removed as a reference. For at least the above reasons, the rejection of Claim 5 under 35 U.S.C. 103(a) over Shimohatsubo in view of Kersch and further in view of Steenbergen is improper and should be withdrawn.

Examiner responds to Applicant's argument (g) by respectfully noting that In response to applicant's argument that Steenbergen is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Examiner believes that it is reasonable to expect that Applicant would look to Steenbergen for inspiration on Applicant's problem of cleaning containers since this is a disclosure at Steenbergen's of its invention.

(h) Applicant argues that Claims 6, 10, and 11 are patentable under 35 U.S.C. 1O3(a) over Shimohatsubo et al. (US 6024016) in view of Kersch et al. (US 6755130) and further in view of Figliola (US 3662781). Claim 6 depends from and shares the patentable limitations of Claim I and adds further patentable features. Claims 10 - 11 depend from and share the patentable limitations of

> Claim 8 and add further patentable features. Furthermore, Figliola is non-analogous and should be removed as a reference. Figliola is non-analogous art and cannot render the present invention obvious because it is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned. Figliola is not in the field of Applicant's endeavor because it is in the field of submerged introduction of a fluid into a body of liquid, and not printing unit ink chamber cleaning. Figliola is not reasonably pertinent to the particular problem faced by Applicant. The particular.problem solved by the present application is the problem of providing a technically simple and reliable cleaning system for ink chambers of printing units working according to a method which enables use of a small energy-saving and space saving high-pressure pump, and which facilitate replacing the cleaning nozzles, and Figliola has nothing to do with that. Figliola does not, because of the matter with which it deals, logically commend itself to an inventor's attention in considering this problem. See Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir.1993). No inventor would ever think to look to Figliola for solutions to printing unit ink chamber cleaning problems. Because Figliola is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned, it is non-analogous art and should be removed as a reference.

Examiner responds to Applicant's argument (h) by respectfully noting that Figliola et al. addresses the cleaning of fluid residue from nozzles as well as the introduction of fluid into a body of liquid, which are reasonable analogous principles to Applicant's endeavors.

> (i) Applicant argues that Claim 7 depends from and shares the patentable limitations of Claim 1 and adds further patentable features. Furthermore, Steenbergen and Figliola are non-analogous and should be removed as references, as explained above. For at least the above reasons, the rejection of Claim 7 under 35 U.S.C. 103(a) over Shimohatsubo in view of Kersch and further in view of Steenbergen and Figliola is improper and should be withdrawn.

Examiner responds to Applicant's argument (i) by respectfully noting that Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a

general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(j) Applicant argues that Claims 13 - 16 are patentable under 35 U.S.C. 103(a) over Shimohatsubo et al. (US 6024016) in view of Kersch et al. (US 6755130 and further in view of Mayer et al. (US 6964792). Claim 13 is distinguished from the references at least in that it teaches a cleaning nozzle for use in a chamber in a doctor blade, where pressurised cleaning liquid is injected into the chamber through at least one such nozzle. No references, taken alone or in combination, teach or suggest this feature. The Examiner argues that these limitations are met by element 21 of Shimohatsubo. Applicant cannot agree. Element 21 of Shimohatsubo is a hole in a blade mounting plate. It is not a cleaning nozzle mad pressurized cleaning liquid is not injected into a doctor blade chamber through it. Therefore, the references do not teach or suggest all the limitations of Claim 13. Furthermore, the Examiner allows that a combination of Shimohatsubo and Kersch does not teach or suggest a largely mushroom-shaped nozzle body with a stem intended for mounting in the wall of the chamber and which has a domed to of art elastic material and furthermore that the nozzle also includes a second nozzle body in the form of a bushing for disposition in an opening in the chamber wail and with a central boring for accommodating the stem of the nozzle body and with through-going openings disposed thereabout the openings covered by the domed top. Therefore, the Examiner relies on Mayer as teaching these limitations. However, Mayer does not teach or suggest these limitations. Furthermore, Mayer is non-analogous art and cannot render the present invention obvious because it is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned. Mayer should be removed as a reference. Mayer is not in the field of Applicant's endeavor because it is in the field of controlling electrolyte flow for plating, and not printing unit ink chamber cleaning. Mayer is not reasonably pertinent to the particular problem faced by Applicant. The particular problem solved by the present application is the problem of providing a technically simple and reliable cleaning system for ink chambers of printing units working according to a method which enables use of a small energy-saving and space saving high-pressure pump, and which facilitate replacing the cleaning nozzles, and Mayer has nothing to do with that. Mayer does not, because of the matter with which it deals, logically commend itself to an inventor's attention in considering this problem. See Wang Laboratories Inc. v. Toshiba Corp., 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993). No inventor would ever think to look to Mayer for solutions to printing unit ink chamber

cleaning problems. Because Mayer is neither in the field of Applicant's endeavor, nor reasonably pertinent to the particular problem with which the applicant was concerned, it is non-analogous art and should be removed as a reference. Claims 14 - 16 depend from and share the patentable limitations of Claim 13 and add further patentable features.

Examiner responds to Applicant's argument (j) by respectfully noting that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). And to develop this point further, Examiner refers Applicant to the "mushroom-shaped' nozzle disclosed by Mayer et al. at column 7, lines 20-35.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

/ACW/

/Stephen D Meier/

Supervisory Patent Examiner, Art Unit 2853